SPECIAL EDITION

NEWSLINE

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Time to celebrate 50 years of national service

From the Director

Bruce Tarter

At a time when the nation is focusing renewed attention on security, the Laboratory is marking its 50th year of national service.

On Sept. 2, 1952, the Livermore branch of the University of California Radiation Laboratory began operations with a small staff and a $3.5 million budget. Throughout 2002, we will take note of our golden anniversary, using the year as an opportunity to reflect on the Laboratory's remarkable accomplishments and vital continuing mission, as well as the challenges Livermore faces.

The tragic events of Sept. 11 remind us of the need for vigilance in national security and the importance of strong programs with cutting-edge research and development at the NNSA laboratories. Many times over the last 50 years, the Laboratory has risen to the occasion to meet important challenges. It is a history marked by accomplishments — the products of vision and leadership of individual staff members, innovations arising from multidisciplinary teamwork, and the creative application of the Laboratory's unique research capabilities.

People make the Laboratory what it is — people doing important, remarkable things, making and touching history.

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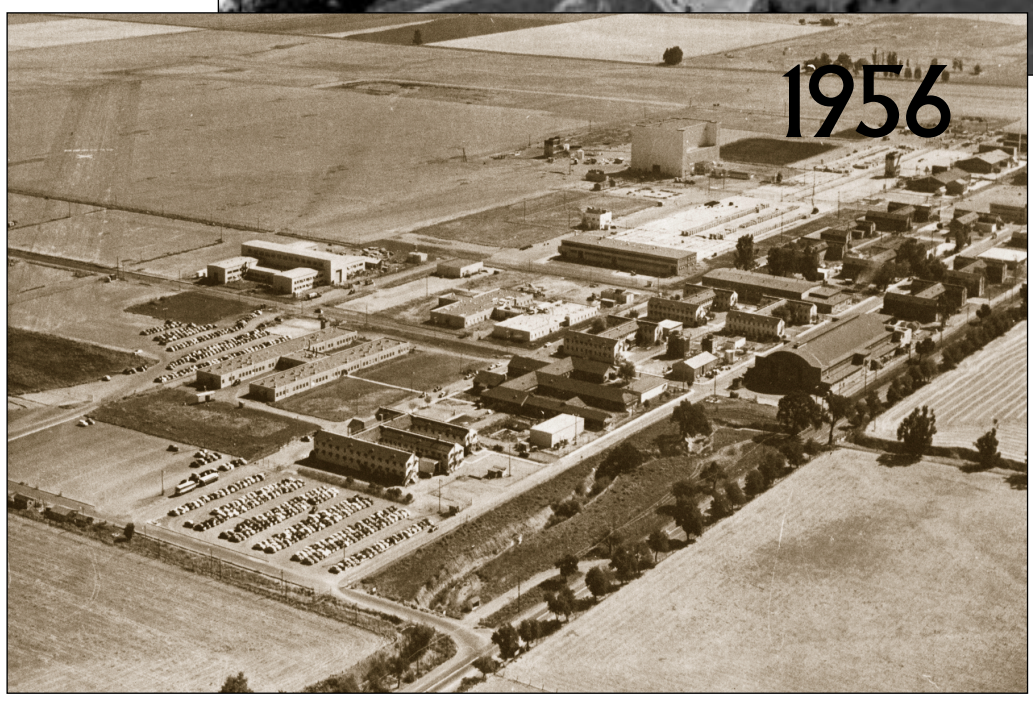

The campus at the Lab has grown significantly, as shown above. In 1956 (photo left), the Livermore branch of the University of California Radiation Laboratory opened at a deactivated naval air station. Many of the buildings were still converted naval barracks.

Events promote Lab's dedication to 'Making History, Making a Difference'

Lawrence Livermore National Laboratory

Making History Making a Difference

1952-2002

As the Lab begins its 50th year in operation, the idea of "Making History, Making a Difference" certainly applies — this landmark affords employees a chance to look back with pride at what they have accomplished, and look ahead to what the future might hold.

"Making History, Making a Difference" is the theme of the 50th anniversary celebration. Intended to celebrate the Lab's history and build for its future, numerous events will take place throughout the 2002 calendar year.

A steering committee, headed by Tom Isaacs, is in place to oversee the commemoration. The committee hopes to "celebrate Lab accomplishments and people, build stronger relationships with sponsors and the surrounding community, and enhance Lab visibility as a means of attracting new talent throughout the year," said Isaacs.

"The Laboratory's 50th anniversary should be a time of remembrance, celebration, acknowledgement and education," said Director Bruce Tarter, kicking off celebration plans during his recent state-of-the-Lab address. "It is also appropriate to use the opportunity to establish a vision for our future."

Each anniversary event will also be used

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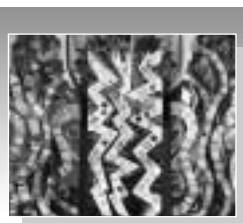

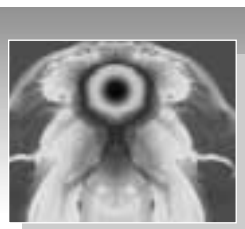

Newsline's annual 'Year-in-Review' issue, covering events at the Lab in 2001

— See insert

1952 – 2002
MAKING HISTORY, MAKING A DIFFERENCE

Team science in the national interest

The first in an ongoing feature highlighting various aspects of the Lab's 50-year history.

The Livermore branch of the University of California Radiation Laboratory opened on Sept. 2, 1952, at a deactivated Naval Air Station. Working conditions were primitive, with the staff housed in old wooden buildings. Herb York, the first director, used as his office the X-ray room in the infirmary building—it was lead shielded and he could carry on classified discussions there without being overheard.

Establishment of the Laboratory was triggered by detonation of the first Russian atomic bomb in 1949 and fear of a quick Soviet advance to the next step, the hydrogen bomb.

Activities began with a sketchy mission statement and a commitment by the staff to be a "new ideas" laboratory. York established a matrix organization for the Laboratory, a distinguishing feature of Livermore still in use today. In this approach, experts in various relevant disciplines assemble as a team and work together to understand and devise solutions to complex problems. This way of pursuing research and development, the same philosophy that was promoted by founder and namesake E.O. Lawrence, enables the Laboratory to better reach its mission-directed technological goals. And the rest is

Livermore Lab becomes a reality 1952

Opening in 1952, LLNL was a deactivated naval air station.

Around the world
- King George VI of England dies; his daughter becomes Queen Elizabeth II.
- Britain announces its development of atomic weapons.
- Soviet "iron curtain" isolates Eastern Europe.
- King Farouk of Egypt is ousted.
- Albert Schweitzer wins the Nobel Peace Prize.

Around the nation
- United States explodes first thermonuclear bomb at Eniwetok Island.
- Dwight Eisenhower is elected president.
- 56 million people watch Richard Nixon's "Checker's" speech on TV.
- Jonas E. Salk (US) develops the first experimentally safe dead-virus polio vaccine.
- TV's first magazine show, The Today Show, debuts on NBC.
- "The Honeymooners" debuts on TV: "An American in Paris" wins Oscar for Best Picture.
- Ernest Hemingway releases "The Old Man and the Sea."
- Cost of a first-class stamp: 3 cents.

Around the Lab
- Herb York is named first director, at the age of 32.
- The Lab concentrates on four programs: Project Sherwood (the Magnetic Fusion Program), diagnostic weapon experiments (both for Los Alamos and Livermore), the design of thermonuclear weapons, and a basic physics program.
- The first two facilities were a building to house the latest electronic computer, a Univac, and a technology building with a large central bay for lifting heavy equipment.
- By the end of 1952, the Lab staff reaches 350.

in other NEWS

Significant events around the world, the nation and at the Lab.

Employee input needed for special lists of 50

Good things seem to come in groups of 50. There are 50 states, 50 stars on the flag, the 50 most beautiful people — even 50 ways to leave your lover.

Now the Lab is celebrating its special 50 — in this case the number of years the Lab has been operating. As part of the anniversary celebration the Lab is putting together special lists of 50. It could be 50 important people to work at the Lab, 50 greatest achievements, 50 things that make the Lab unique, 50 defining moments, or 50 moments the Lab would rather forget.

You tell us. Each week we will ask employees to give us their ideas for a list of 50. This week we kick off with 50 influential people to work at the Lab. Give us your thoughts on who they are and why.

And no, you don't have to come up with 50 people. Just a few (but you can still go ahead and name 50 if you are feeling really ambitious). We'll put the list together and publish the results on a regular basis in *Newsline*.

So write away right away. It's no secret Lab employees love to share their viewpoints. Give us yours at *Newsline*, L-797 or e-mail them to newsonline@llnl.gov.

50 influential people to work at Lab

Your name (optional): _____ **Your ext.** _____

Who:

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Why:

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Comments:

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Lawrence Livermore National Laboratory
Making History Making a Difference
1952-2002

2001
THE YEAR IN REVIEW

Lab's science, security missions stand out

JANUARY

Science & Technology

The Lab-developed "Smart Probe," a new minimally invasive diagnostic tool in the fight against breast cancer, becomes the subject of a cooperative research and development agreement with BioLuminate of San Jose.

Lab researchers with the Massive Compact Halo Objects (MACHO) collaboration present findings of strong evidence that microlensing events are caused by compact dark matter in the halo of the Milky Way. In a related finding, MACHO researchers report finding for the first time 154 rapidly moving stars toward the center of the galaxy.

The Nevada Test Site celebrates its 50th anniversary with an open house Jan. 27.

The first set of amplifier buses for the National Ignition Facility is produced. These massive enclosures will house the first bundle of NIF amplifiers.

Hoya Glass reaches a major milestone in optical glass melting, producing 20 tons of high-quality neodymium-doped amplifier glass per month. The glass labs will be used in the National Ignition Facility.

Armando Alcaraz and Brian Andresen inspect the electrospray assembly that is the heart of the advanced triple quadrupole mass spectrometry technology utilized to identify polar compounds in complex biological samples. The technique was used in the investigation that led to the re-arrest of 'angel of death' Efren Saldivar.

People

Lab physicist Tom Peyser and co-researchers receive the DOE Bright Light Award for their work on a biomechanical pancreas that helps diabetes patients monitor their glucose levels.

Work by the Forensic Science Center and its director Brian Andresen leads to the re-arrest of Efren Saldivar, the self-proclaimed "angel of death."

Operations

The UC Board of Regents approves modification of the contracts under which it manages Lawrence Livermore and Los Alamos national labs.

The UC President's Council on the National Labs rates the Lab's research as "excellent" to "outstanding."

FEBRUARY

Science & Technology

MicroDesign Resources Microprocessor Report names extreme ultra-violet lithography (EUVL) its technology of the year. The Laboratory is a partner in the EUVL consortium.

The first amplifier buses for the National Ignition Facility, known as MA and PA (for main amplifier and power amplifier) are shipped to the NIF storage area and prepared for spring installation.

Scientists may be closer to understanding the formation of the famous Eagle Nebula columns of galactic gases, thanks to the analysis of Lab physicists Jave Kane, Dmitri Ryutov and Bruce Remington.

Detailed analysis of the Lab's contributions to the Human Genome Project is unveiled in issues of *Science* and *Nature* magazines. Lab scientists initially mapped chromosome 19.

People

Bob Kuckuck, deputy director for Operations, retires after a 38-year Lab career.

Dave Cooper, former Computation AD and Lab chief information officer, is appointed to another term on the President's Information Technology Advisory Committee.

A team of Lab computer scientists receives the Government Technology Leadership Award for development of the "Safepatch" computer security system.

Lab scientist Peter Fiske publishes "Put Your Science to Work: The Take Charge Career Guide for Scientists."

Operations

Laboratory employees may now donate vacation time through a newly implemented Catastrophic Leave Sharing Program. The program allows employees to donate their vacation time to colleagues who have exhausted their own paid leave balances due to injury or illness.

A steering group is appointed to oversee development of an employee survey.

MARCH

Science & Technology

The Lab holds its first annual Science Day, "a day of show and tell for supercomputing." John Gordon, NNSA Administrator, former Lab Director Mike May, Judson King, UC Provost and Senior Vice President, and James Decker of DOE were among those in attendance.

The Lab's state-of-the-art forensic capabilities for ultratrace chemical analysis are enlisted in the global effort to reduce the threat of chemical weapons. The request comes from the departments of State, Defense and Energy, making the Lab the second national laboratory certified by the Organization for the Prohibition of Chemical Weapons.

The Science on Saturday series returns with a talk by the Lab's Joanna Albala on "What Do Your Genes Really Do?"

The Defense Programs Status Review on NIF finds that the program has made significant progress in all areas reviewed and is meeting its milestones.

People

Jay Davis, director of the Defense Threat Reduction Agency and former AD for Earth and Environmental Sciences, returns to the Lab as the first national security fellow at the Center for Global Security Research.

UC Davis in collaboration with the UC Office of the President, UC Merced and the Lab establish the Edward Teller Education Center adjacent to the UC Davis Department of Applied Science.

Kent Oelrich becomes the new Safeguards and Security Department's Security Awareness coordinator.

Martha Krebs, former director of DOE's Office of Science, speaks at the Lab on "Managing Science: Oxymoron or Real Life." During her talk she urges scientists to "learn the languages of leadership, administration and management."

Brendan Doohe of the Environmental Protection Department is the first Laboratory engineer selected for the prestigious National Academy of Engineering fellowship, which will send him to Washington, D.C. for a year to learn about and shape science policy.

Operations

John Gordon, NNSA administrator, unveils plan to get national security programs moving forward strongly. He calls for "a new attitude of cooperation and team work."

The Laboratory launches a new Work-Life Web guide to help employees juggle the demands of work, family and personal needs.

Mortality rates for current and former

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2001

Continued from page 3

employees continue to decrease and are dramatically lower than death rates for the U.S. population in general, an ongoing study shows.

APRIL

Science & Technology

Certification of the first warhead to be refurbished without nuclear testing for the nation's nuclear deterrent is marked at the Lab in a ceremony attended by Gen. John Gordon, administrator of the National Nuclear Security Administration, and Adm. Richard Mies, commander-in-chief of the U.S. Strategic Command.

Members of industry, government and the news media gather at Sandia National Laboratories/Livermore to mark completion of the first full-scale prototype lithography machine for making computer chips using extreme ultraviolet light. The technology — developed by Lawrence Livermore, Sandia and Lawrence Berkeley national laboratories — is a breakthrough that will lead to microprocessors tens of times faster than today's most powerful chips and create memory chips with similar increases in storage capacity.

Los Alamos, Lawrence Livermore and Sandia national laboratories will utilize the full breadth of their assets to meet stewardship requirements for the W80 warhead, under the terms of an agreement approved by the National Nuclear Security Administration.

Two Lab scientists, Jesse Wolfe of Electronics Engineering Technology Division, and Norman Thomas of Chemistry & Materials Science, together with their team of supporters patent a new ultra-thin silver coating for mirrors, which is proving to be far more durable than any previously used.

People

Jeremy Wu, DOE's national ombudsman, visits the Lab for three days, meeting with employees, special interest groups and senior managers, and holds a town hall meeting for all employees in which he gives a progress report on his office.

The Defense and Nuclear Technologies Directorate, the National Nuclear Security Administration and the Department of Energy hand out 17 awards for weapons excellence to 127 Lab employees.

Tennessee Sen. Fred Thompson visits the Lab to discuss LLNL's national security missions. He also toured Lab facilities such as ASCI and the NIF construction site.

With Director Emeritus Edward Teller looking on, Claire Max of Physics and Advanced Technologies, Elbert Branscomb of the Biology and Biotechnology Research Program, John Nitao of Energy and Environment, and George Kwei, also of PAT, are officially named Edward Teller Fellows for 2001.

Operations

The Lab shares its state-of-the-art Argus security system with its sister Lab in Los Alamos. The Argus system integrates numerous physical security aspects, from badging and door entries to the video, infrared and motion sensors. All aspects of Argus are controlled and monitored from one central alarm station.

LLESA announces it is scaling back operations at its Employee Store. It is renamed "Time Zone."

The U.S. Environmental Protection Agency recognizes the Laboratory as a "champion of green government." Recycling materials from decontamination and demolition projects earned the EPA's Greening the Government Award, recognition and appreciation of individuals and groups that "go above and beyond the call of duty in working to improve the environment."

Director Bruce Tarter tells the Senate Committee on Armed Services that a strongly supported Stockpile Stewardship Program is needed to ensure the safety, security and reliability of the nation's nuclear arsenal over the long term. Likewise, strong and sustained support is needed in what Tarter called "the other side of the national security coin," threat reduction activities such as nonproliferation, counterproliferation and counterterrorism.

Energy Secretary Spencer Abraham issues a memorandum to all DOE and contractor employees regarding the department's policy against racial profiling.

The Lab launches 'Assessing the Workplace,' an employee survey, in May.

MAY

Science & Technology

A joint Stanford University-Laboratory team of scientists, nuclear engineers and arms control experts concludes in a new study that North Korea's compliance with the 1994 Agreed Framework can be verified to a satisfactory degree of accuracy.

Researchers in the Lab's Atmospheric Science Division demonstrate a cooling of up to 2-degrees Fahrenheit over land between 1000 and 1900 AD as a result of changes from natural vegetation, such as forests, to agriculture.

People

Howard Powell, a longtime Lab laser researcher who died November 2000, is elected a fellow of the American Optical Society. This is the first time in the society's history that fellowship has been bestowed posthumously.

Former Lab Deputy Director Bob Kuckuck is named acting principal deputy administrator of the National Nuclear Security Administration by Gen. John Gordon.

Laura Gilliom, manager of Sandia National Laboratories, Advanced Design and Production Technology Program and an organic chemist, is named director of the Lab's University Relations Program. She will begin her appointment on June 1.

Operations

Lab Director Bruce Tarter names six new associate directors and a new deputy director. Michael R. Anastasio is the new deputy director of Strategic Operations; C.K. Chou is named associate director of Energy and Environment; William Goldstein is named associate director for Physics and Advanced Technologies; Dona L. Crawford is appointed associate director of Computation; Dennis K. Fisher is selected to lead the Safety, Security and Environmental Protection Directorate; Janet G. Tulk is named associate director of Administration; and J. Steven Hunt is named associate director for Laboratory Services.

John P. McTague is named University of California vice president of Laboratory

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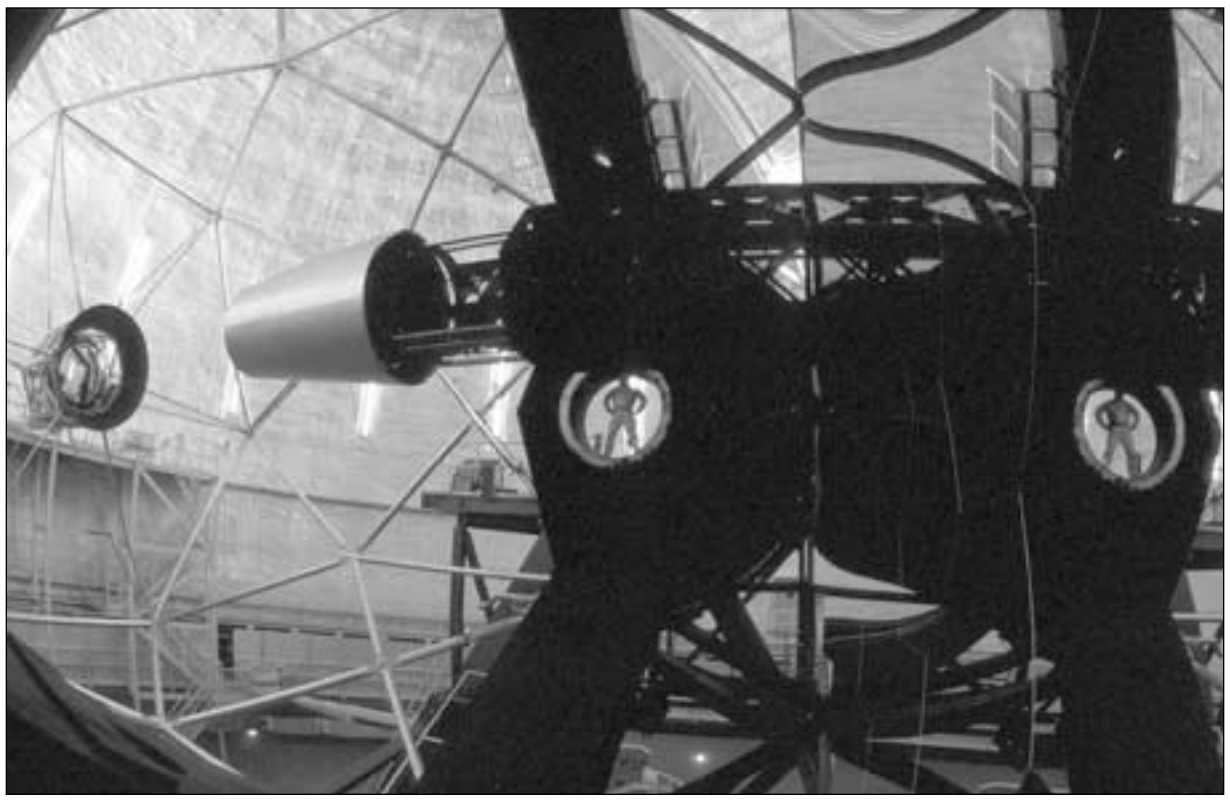

A new coating process unveiled for telescopic mirrors proves to be more durable than any previously used. The process was developed by Lab researchers and has been installed on a Keck observatory mirror.

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Management.

Lee Younker is selected associate deputy director for science and technology, effective June 1.

In a televised talk on the state-of-the-Lab, Director Bruce Tarter discusses the budget prospects for the upcoming fiscal year, the National Nuclear Security Administration and the UC contract.

Engineering and Computation's job fair, held at Livermore Shrine Event Center, attracts more than 1,000 people.

A coalition of Lab employee networking groups takes the concept of National Cancer Survivors Day and expands it to a monthlong cancer awareness campaign that features a number of speakers, including nationally recognized breast cancer specialist Dr. Susan Love.

The Lab launches its employee survey, "Assessing the Workplace," on May 29 via the Web. Questions focus on issues such as job satisfaction and work environment; growth opportunities, career development and retention issues; diversity and equal opportunity issues; work/life balance issues; and overall management of the Lab. Employees have until June 22 to complete the survey.

The 'Raging Light' quilt commemorates breast cancer victims, survivors and caregivers. The quilt was on display throughout the Cancer Awareness Campaign.

JUNE

Science & Technology

A team of Northern Arizona University researchers, using a DNA-based detection system developed by Laboratory biomedical scientists, confirms the presence of plague within four hours in a prairie dog colony in northern Arizona.

The laser bay of the National Ignition Facility utilizes three vehicles to carry ultra clean canisters used to transport phone-booth-sized optical assemblies (the Line Replaceable Units, LRUs) and install them in the NIF laser system. Guided by a computer-controlled laser, each transporter weighs 29,000 pounds and can carry a canister LRU weighing as much as 8,000 pounds.

DOE Secretary Spencer Abraham announces funding for 13 new research projects — including two at the Lab — under the Nuclear Energy Research Initiative. Lab principal investigators receiving the NERI awards are Wayne King and Bill Wolfer, both of the Materials Science and Technologies Division.

The Lab moves significantly closer to shipping its surplus plutonium off site, thanks to a collaborative effort between researchers from the Lab's Nuclear Materials Technology Program, several NNSA and DOE facilities, and British Nuclear Fuels Limited.

Under a new Defense Advanced Research Projects Agency (DARPA) initiative, the Laboratory is teaming with academic institutions and industry to develop powerful new capabilities for multi-gigabit per second, secure, free-space communication links and aberration-free, three-dimensional imaging and targeting at ranges larger than 1000 km.

A Lab team's new research on the process biological organisms use to modify crystal shape and growth, forming such complex structures as bones, eggshells and seashells, is detailed in the science journal, *Nature*. Christine Orme of Chemistry and Materials Science is the lead author of the article, titled "Formation of Chiral Morphologies through Selective Binding of Amino Acids to Calcite Surface Steps."

The search to resolve a long-standing mystery of particle physics reaches a milestone with publication of the first results from the B Factory experiment at Stanford University's Linear Accelerator Center (SLAC). Lab scientists played a key role in analyzing the data from the experiment designed to resolve the mystery of why there is more matter than antimatter in the universe.

Members of the collaborative effort to begin storing surplus plutonium celebrated their milestone in June. Clockwise from lower left are Karen Dodson, Les Dutton (center), James Davis, Joe Sefcik, John Wilcynski, Bill Bookless, David Riley, Brent Ives, Michael Hooper, Jamshid Shakiba and Kevin Silveira (kneeling).

People

Congresswoman Ellen Tauscher stops by the Lab to field questions from employees on topics ranging from tax cuts to the California power crisis.

Dave Cooper, former AD for Computation, receives DOE's highest civilian recognition, the Distinguished Associate Award, for his leadership of DOE/NNSA's Accelerated Strategic Computing Initiative, the effort to simulate nuclear weapons performance with computer models.

Laser/plasma physicist Mordy Rosen is one of two recipients of the prestigious Edward Teller Medal for 2001, announced by the American Nuclear Society. Rosen is named along with Professor Stefano Atzeni of the University of Rome "La Sapienza" and the Italian National Institute for the Physics of Matter. The medal recognizes pioneering research and leadership in inertial fusion sciences and applications.

Operations

Former FBI Agent Terry D. Turchie is named head of the Security Awareness for Employees (SAFE) Program.

Health Services is awarded a three-year certificate of accreditation by the

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THE YEAR IN REVIEW

In July, the Lab's ASCI White was named the world's fastest computer, according to Top500.

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Accreditation Association for Ambulatory Health Care, Inc.

Christine Hartmann-Siantar, principal investigator of the Peregrine Program, is selected as director of the Glenn T. Seaborg Institute.

JULY

Science & Technology

A team of Walnut Creek-based Joint Genome Institute scientists confirm the year's earlier estimate that the human DNA contain about 30,000 genes.

The Lab takes number one and number four on the list of the world's fastest computers, issued by TOP500, with ASCI White and ASCI Blue Pacific computers.

A new international security research facility designed to allow the Lab to conduct state-of-the-art analysis on national security threats posed by the proliferation of weapons of mass destruction receives preliminary approval and praise from an independent review team.

People

Several prominent members of the Lab's "next generation" of researchers share their advice with younger employees in the second of three Institutional Education Committee and Science & Technology Education Program school-to-career panel discussions.

Quazi Hossain, an engineer in the New Technology Engineering Division, is honored as fellow of the American Society of Civil Engineers.

Edith Greene and Valerie Stanton are awarded full-time scholarships from the Lab's Undergraduate Scholarship Program.

Operations

The Lab maintains an overall performance rating of a high "excellent" from DOE and shows significant improvement in scores for NIF, Lab management, and Safeguards and Security. The annual assessment includes appraisal of the Lab's performance in science and technology as well as administration and operations. This comprehensive evaluation system, along with annually negotiated performance standards, is defined in the University of California's contract with DOE.

More than 70 percent of Lab employees complete the 2001 Assessing the Workplace Survey.

Bruce Goodwin is named associate director for Defense and Nuclear Technologies.

Merna Hurd is named associate deputy director for Strategic Operations.

AUGUST

Science & Technology

Using light from the most distant object known, Lab astronomer Robert Becker and others find traces of the first generation of atoms in the universe, 14 billion light years from Earth.

ASCI White is formally unveiled as the world's fastest supercomputer with representatives from the Lab, NNSA and IBM.

The Contained Firing Facility is officially dedicated at Site 300.

Lab expertise in forensic analysis plays a key role in the conviction of "Fremont bomber" Rodney Blach, according to an Alameda County district attorney.

The Lab receives more than $23 million to research a variety of subjects — from supernovae to climate modeling to plasma microturbulence to supercomputer simulation tools — from DOE through its new Scientific Discovery through Advanced Computers (SCI DAC) program.

People

Edward Teller, LLNL Director Emeritus, is honored with the Hungarian Corvin Medal, an honor bestowed by the Hungarian government for exceptional achievement in the arts and sciences.

National Automated Manufacturing Technology Competition champion college students serve as summer interns at Lab.

Taking a break from her redistricting battles, Rep. Ellen Tauscher chats with employees, vowing to continue to fight for the labs in Washington.

Managers from LLNL, Sandia and Los Alamos attend a day long diversity workshop to address diversity in retention, recruitment and security policies.

Operations

The Lab celebrates the 100th birthday of founder E.O. Lawrence with an appearance by his daughter Mary Lawrence Prud'homme and recognition from NNSA, UC Office of the President and the Livermore City Council.

Lab employees enjoy multicultural food and entertainment at the annual Diversity Day on the Green.

The newly renovated Central Café opens to employees.

The Tri-Valley Enterprise Center for business development opens.

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Director Emeritus Edward Teller shows his Hungarian Corvin Medal, presented in August at his home at Stanford University. Delegates of the Hungarian prime minister awarded this medal to Teller to represent his significant contributions to the arts and sciences. It is the first time the Corvin Medal has been awarded since 1930.

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2001
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SEPTEMBER

Science & Technology

Physicists and astrophysicists explain how the two strongest energy emission lines from iron ions in the solar corona differ from laboratory calculations.

Lengthy negotiations led by Lab representatives yield a partnership between a former Russian weapons manufacturer and a U.S. firm to establish a commercial medical equipment manufacturing facility in the Russian closed nuclear city of Sarov.

Lab and U.S. Army officials unveil a 10-kilowatt Solid State Heat Capacity Laser that could demonstrate a new short-range air and missile-defense capability.

Fischer Imaging Corp., which partnered with the Lab from 1993 to 1996 in digital mammography work, receives Food & Drug Administration approval for its system.

The MACHO project of DOE and the National Science Foundation yields a treasure trove of data on 73 million stars.

The first amplifier slab line-replaceable unit is installed into National Ignition Facility.

On Sept. 28, the National Ignition Facility completes construction of its $70 million conventional facility — meeting that milestone days before the five-year goal, set back in 1996.

A simulation of the density profile of a 1 solar mass main sequence star (just like the sun) after shock wave passage from a Type 1a supernova (which 'went off' above the top of the image). The research is part of the DOE's new Scientific Discovery Through Advanced Computers Program. In August the Lab was awarded $23 million in SCIDAC funding.

People

Many employees are stranded throughout the nation and the world, either on vacation or official travel, as airliners are grounded for days following the Sept. 11 attacks.

Numerous Lab scientists become regulars as the national media spotlight turns to LLNL's many anti-terrorism missions.

Engineering AD Spiros Dimolitsas announces he is leaving the Lab in November to take a position at Georgetown University as senior vice president and chief administrative officer.

Nuclear engineer Craig Smith is selected as fellow of the American Nuclear Society.

Randall Bradley, formerly Lab assistant fire chief, becomes the new Lab fire chief.

Operations

The "Assessing the Workplace" survey results are released to employees, showing that more than 80 percent of the workforce says it is "proud to be associated" with the Laboratory. Other significant results include high marks for the level of safety, employees' work role and involvement, and overall job satisfactions and commitment. Survey follow-up, supervision and performance evaluation scores were lower than expected and lower than peer-type organizations.

Security measures are heightened in almost every aspect of Lab operations in the wake of the Sept. 11 terrorist attacks. Employees see an increased presence of protective service officers, roads closed, a new perimeter and increased badge checking. Donation efforts begin to help attack victims. Many of the Lab's technologies in counterproliferation and nonproliferation become the subject of massive media interest that continues through the end of the year.

LLNL donates $1 million worth of former magnetic fusion equipment to Argonne National Lab to be used in the nuclear physics program at the Argonne Atlas Facility.

OCTOBER

Science and Technology

Lab research teams are honored with three R&D 100 awards for their scientific and technological achievement. The technologies include a revolutionary technique for discovering genes, an advance for making safety-critical parts and a new process for producing laser glass 200 times faster than previous methods.

The Lab's largest ever cooperative research and development agreement — to develop extreme ultraviolet lithography into the next-generation technique for making computer chips — is extended for another three years.

Preston Carter's HyperSoar concept for an aircraft that would fly at 6,700 miles per hour, may move a step closer to reality following successful tests of a vehicle using scramjet engines. The miniature vehicle (4 inches in diameter) flew along a 240-foot tunnel at Mach 7.1, or 5,325 mph.

Phylos, Inc. partners with the Lab to develop high throughput methods for protein production

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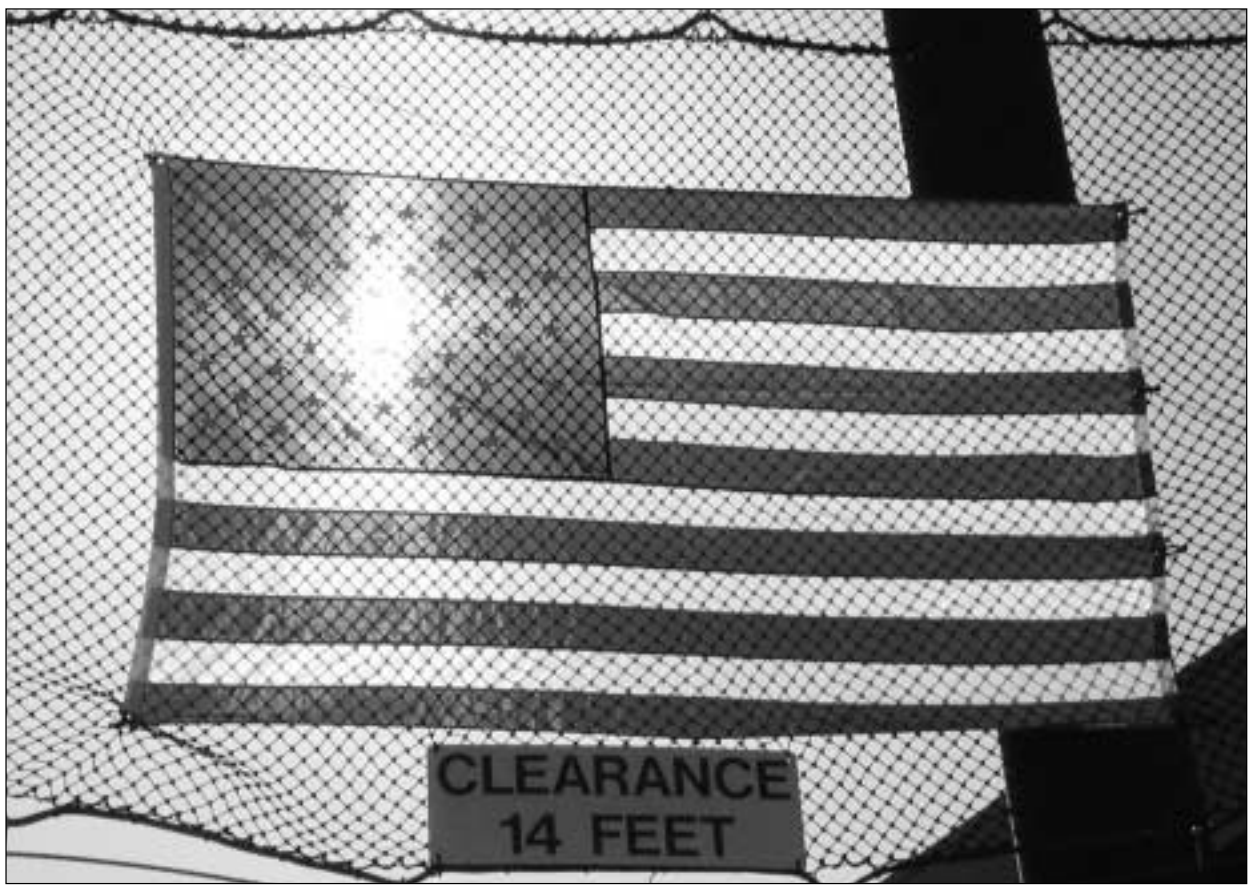

The U.S. flag was installed Sept. 12 in the netting surrounding the plutonium building in the Superblock. Chris Holm, deputy facility manager, brought the flag in from home to 'show pride for what we do.' The 4-foot-by-6-foot flag was installed in the netting by Lab employee Glenn Cox. The netting is a security measure to prevent items from being thrown in or out of the block.

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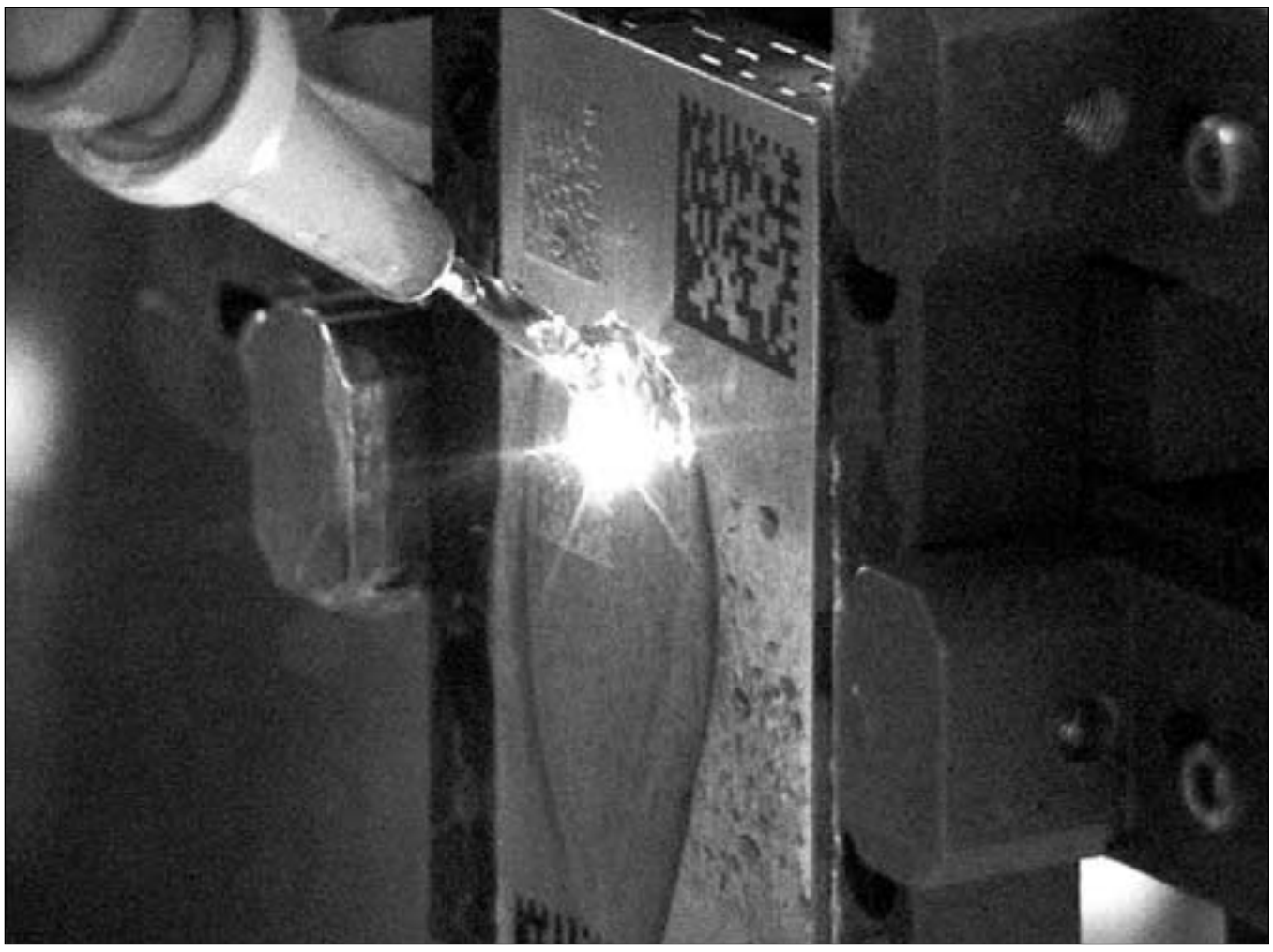


Lab researchers, with an industrial partner, have developed a technology for permanently making safety-critical parts. The technology is one of three R&D 100 award winners.

effort to improve security, the Laboratory changes access controls at the South Gate.

The Survey Action Steering Committee begins formulating action teams to analyze data from the employee survey, "Assessing the Workplace," and make recommendations. The teams are: Pay, Benefits and Recognition; Career Development and Training; Performance Management; Work/Life Balance; Employee Empowerment; Postdocs, and 800s/900s. Nominations are requested for action team members and teams are off and running within two weeks.

Protective Force increases its ability to search for high explosives by deploying special K-9 teams.

The Laboratory kicks off its annual HOME Campaign with the Run for HOME and Agency Fair. At the same time the Lab is presented with a Tri-Valley Community Champions Award, given by the Tri-Valley Community Foundation for the Lab's past efforts to raise money for nonprofits through the HOME Campaign

Jens Mahler is named acting Engineering AD.

Ellen Raber is named the new department head for Environmental Protection. She replaces Harry Galles, who retired in July.

2001
Continued from page 7

to create research reagents and microarrays that may be used to design new drugs or disease diagnostic tools.

BioLuminate, the Silicon Valley start-up that has been working since earlier this year to develop a breast cancer detection tool, announces it will begin testing the new diagnostic on human volunteer patients at UC Davis Medical Center. The Lab miniaturized the technology.

People

Professor Ling-chi Wang of UC Berkeley visits the Lab to discuss diversity issues with senior management.

Sandy Sparks, manager of DOE's Computer Incident Advisory Center, is awarded the first Charlene Douglas Memorial Award for sustained outstanding contributions in a leadership role.

A poster display for a Lab-developed method for groundwater cleanup earns three scientists an award from the American Association of Petroleum Geologists. The winners are Rick Blake, Charles Noyes and Mike Maley.

Robert Card, under secretary for DOE, visits the Lab for tours of facilities and overviews of programs.

Operations

NNSA Administrator Gen. John Gordon praises Laboratory employees for their efforts following the Sept. 11 attacks. He reminds employees to keep three goals in mind: "Protect ourselves, accomplish our mission, and help others."

As a result of Sept. 11 attacks and in an

NOVEMBER

Science & Technology

Salmonella may soon be identified within

See **2001,** *page 9*

As part of the Laboratory's ongoing heightened state of security, the officers of the Protective Force Division begin working 12-hour shifts in September to keep employees safe and secure.

2001
THE YEAR IN REVIEW

Five years ago, this was a just a dirt field hiding a few mammoth bones. More than 1.7 million hours of craft labor later, the NIF conventional facility is complete.

2001

Continued from page 8

hours, rather than a couple weeks, thanks to a rapid-detection technique developed by Lab researchers. Development of the DNA-based detection system is detailed in an article in *Applied & Environmental Microbiology.*

IBM announces a partnership with the Lab to expand its Blue Gene Research project. IBM will work with the Lab to develop a new supercomputer. The computer is expected to operate at about 200 teraflops, which is larger than the total computing power of the top 500 supercomputers today. The computer will be used to simulate physical phenomena such as the aging of materials and turbulence.

Lab engineers and technicians gather with Gov. Gray Davis, Oakland Mayor Jerry Brown, Executive Officer Ron Cochran and members of the press to unveil the Lab's latest contribution to homeland security — a truck stopping device to prevent hijacked tankers from becoming "motorized missiles."

Policy, science and technology experts from the U.S. and Western Europe meet at the Laboratory to discuss the future of nuclear deterrence in a workshop sponsored by the Center for Global Security Research. The conference is the culmination of a series of meetings held this year under CGSR's Global Security Futures Project to discuss "Whither Deterrence?": Stability Strategies for the Future/Implications for Nuclear Weapons."

People

UC President Richard Atkinson comes to the Lab for a tour and update of NIF.

Lab researcher Gary Johnson collaborates with Sandia technologist Richard Jennings on the third edition of "LabVIEW," a guide to graphical programming.

Carl Brashear, the real-life hero behind the film "Men of Honor" and the Navy's first African American master diver, speaks at the Lab on behalf of Veterans Day.

Director Edward Teller's autobiography, "Memoirs: A Twentieth Century Journey in Science and Politics," is released.

Operations

Computation AD Dona Crawford announces a reorganization to "unify her directorate." The reorganization includes the posting for a new deputy associate director who will serve as the Lab's chief information officer.

UC President Richard Atkinson and John McTague, vice president for Laboratory Management, send letters to Director Bruce Tarter in praise of employee efforts following the Sept. 11 attacks.

Considerably less cancer exists among Lab employees than would be expected based on Bay Area rates, according to the findings in Health Services' Cancer Surveillance Project. The project reports cancer rates among Lab employees.

John McTague, UC vice president of Laboratory Management, reports the UC labs have had an outstanding year, producing "superb science and technology" while, for the first time, the quality of management rose to comparably high levels. McTague made his remarks to the UC Board of Regents.

The Visitors Center kicks off "Space & Science Saturday," the first in a series of weekend events to showcase science demonstrations and exhibits from the Lab and visiting groups. The event attracts 500 people.

Director Emeritus Edward Teller ceremoniously helps put the first shovel in the ground, breaking way for a new K-12 teacher training center named in his honor.

DECEMBER

Science & Technology

Lab researchers discover that volcanic eruptions during the past 20 years have masked global warming. The work shows that large volcanic eruptions cooled the lower troposphere more than the surface, and likely obscured the actual warming of the troposphere. The work is detailed in the *Journal of Geophysical Research — Atmosphere.*

Lab astronomers, in collaboration with an international team of researchers, make the first detection and measurement of the properties of a dark matter object in the Milky Way. The observation of a gravitational microlensing event — a temporary increase in the brightness of a background star during

See **2001,** *page 10*

Livermore's newly installed Mayor Marshall Kamena is greeted on his first official visit to the Lab by Director Bruce Tarter (right) and Dave Leary (center). The mayor took a windshield tour of the site, was given an overview by Lee Younker and lunched with Tarter and Deputy Director Jeff Wadsworth, among others.

2001
THE YEAR IN REVIEW

2001
Continued from page 9

the time it takes dark matter to pass in front of it — is detailed in the Dec. 6 edition of *Nature*.

Lab scientists and engineers will conduct communications experiments between Mount Diablo and the Laboratory to develop a wireless means of transmitting large quantities of data. The experiments are being conducted as part of the Lab's Secure Air-optic Transport and Routing Network, an NAI-Laboratory Directed Research and Development strategic initiative geared toward developing advanced technologies for long-range laser communications.

Lab researchers present evidence that a powerful new method for capturing carbon dioxide from power plants and placing it in the ocean has less impact on marine life than atmospheric carbon dioxide release or other global warming mitigation methods, such as direct injection and ocean fertilization.

In December, Gov. Gray Davis, flanked by Ron Cochran (left) and Bill Wattenburg, unveiled the Truck Stopping Device to the press.

A DNA diagnostic technique developed by Laboratory scientists is expected to provide a valuable new tool to improve cancer diagnosis. The advance is described in a paper published this month in the journal *Proceedings of the National Academy of Sciences*.

People

Newly installed Livermore Mayor Marshall Kamena visits the Lab to get acquainted with its programs and key managers.

Brig. Gen. Richard Haeckel, acting deputy administrator for Defense Programs in NNSA, visits the Lab to tour ASCI and NIF and get overviews on various Lab programs.

Ambassador Linton Brooks, NNSA's new deputy administrator for Defense Programs' Nuclear Nonproliferation, comes to the Lab for two days to see first-hand what Livermore does, as well as to send a message that he values the strategic partnership with the national labs.

Four Lab physicists are named fellows of the American Physical Society. Peter Beiersdorfer of V Division, Siegfried Glenzer of the National Ignition Facility, David Munro of X Division, and Karl van Bibber of the Physics and Advanced Technologies Directorate are among the 190 new fellows named this year.

Operations

Director Bruce Tarter announces he will step down in 2002. His announcement comes exactly seven years to the day he was appointed the Lab's eighth director by the UC Regents. Tarter will remain director until his successor is found.

Hal Graboske, AD for Chemistry & Materials Science, announces he will step down, following the search for his successor.

In his state of the Laboratory address, Tarter sees another strong year in 2002, citing "excellent technical achievement, a solid budget and outstanding grades for science and operations."

The Laboratory kicks off its plans for the 50th anniversary with the unveiling of a new logo and a special commemorative calendar.

Construction begins on a new office for Chemistry and Materials Science. Bldg. 155, will be a two-story, 22,000-square-foot facility located east of Bldg. 151.

A screening committee is formed to begin the search and review of candidates for the associate director for Chemistry & Materials Science.

Deputy Director Mike Anastasio announces several organizational changes to the Office of Strategic Operations. Larry Ferderber is named assistant deputy director. Linda Rakow, also named an assistant deputy director, will serve as senior business manager and financial adviser to Anastasio. Denise Robinson is named the institutional facility manager.

The Laboratory's annual HOME Campaign raises $1.31 million for local charities and non-profit agencies. It is the fourth consecutive year the Lab has raised more than $1 million to give back to the community.

On Dec. 14, the National Ignition Facility construction site sets a record of one year and more than one million hours without a single lost workday injury.

in 2001 QUOTEWORTHY

"There is a sense of urgency and commitment to do whatever it takes to protect us from the threat of terrorism. We must be tireless and relentless in our efforts to do our jobs and make the world a safer place. We must be poised for any follow-on event."

— John Gordon
NNSA Administrator, on security following Sept. 11

"You can't respond effectively to a crisis if you only start preparing when the crisis occurs. For years, these laboratories (including LLNL) were getting ready for things that the rest of us haven't been thinking about. Their contributions are a dramatic illustration of the importance of doing research before applications become urgent."

— John McTague
UC vice president to the Board of Regents

"People forget the value of having labs like Lawrence Livermore in this state. This technology proves the value of the Lab to ever citizen."

— Gov. Gray Davis, unveiling a new truck-stopping device to benefit homeland security

"In science what was impossible 50 years ago is now reality. Further knowledge for everybody's benefit; that is my high aim for the next century. I pray, wish and ask for your success."

— Edward Teller, Director Emeritus

"Bruce will be missed, but his legacy will be felt for many years. He has been a tireless and effective advocate for Lawrence Livermore's scientists and staff and has taken steps to ensure that the Laboratory will continue to deliver first-rate support to national security and cutting edge science and technology. I've personally enjoyed his keen intellect and have valued his always sound advice."

— NNSA Administrator John Gordon

"You come to a national lab and if you're not impressed with the science you see, then you're not impressible."

— NNSA deputy administrator Linton Brooks

"The Lab needs to improve its recruiting and retention tools in the coming years. We understand that incoming generations have different needs than people who have staffed the Lab since 1952. The challenge is how do you recruit them. We will soon have four generations — the military generation, baby boomers, generation X and generation Y — all working at the Lab at the same time. They all have different wants, needs, desires and priorities."

— Deputy Director Jeff Wadsworth on the importance of the employee survey

"The best source of business insight comes from those who are already carrying around your business card. If you do not actively engage your own employees, you are missing out on a potential blockbuster idea."

—-Leo Brajkovich of ISR

1952 – 2002
MAKING HISTORY, MAKING A DIFFERENCE

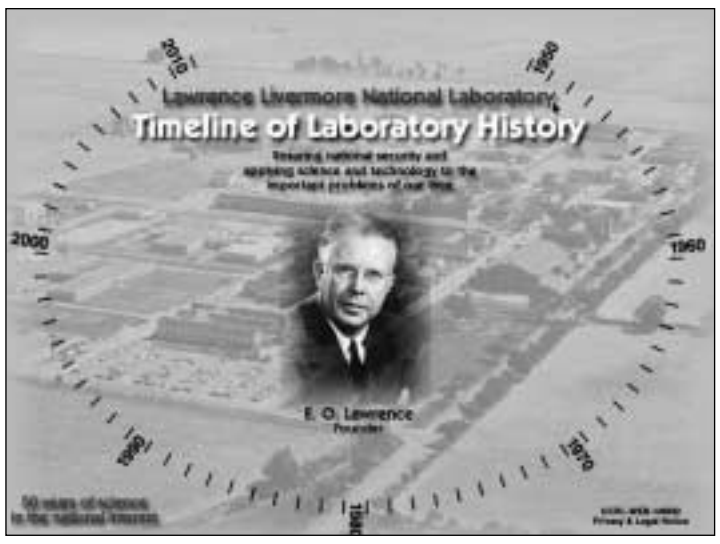
New Website takes timeout to honor Lab's history

What was happening at the Lab during the 1960s, the '70s or even the '80s? What was the site like when the place opened its doors back in 1952? All of these facts can be found on a special new Website that becomes available today.

In honor of the Lab's 50th anniversary, a comprehensive timeline featuring facts from the day the Lab first opened up to the present, is now posted on the Web. The timeline can be viewed at: http://www.llnl.gov/timeline.

Click in and you will find a multitude of information about the Lab arranged by decade, beginning with the 1950s. For each decade, there are pictures and short summaries of the Lab's top news, with links to longer articles for each item, and short overviews of the Lab leadership, organization and number of employees. There are also highlights of world news for each year.

For example, in the 1970s, the link to 1971 includes such world events as the Apollo 15 moon landing and the Soviet launch of a primitive space station into the Earth's orbit. In the same year, Lawrence Radiation Lab became a separate organization from the UC Berkeley Radiation Lab and the quest for fusion power was the goal of experiments with Baseball II, a large superconducting magnet shaped like the seams of a baseball.

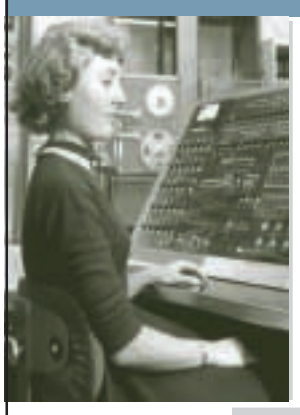


Click on the 1980s and you will read Lab highlights that include ARAC's tracking of radiation dispersion from Chernobyl, the MFE magnet and Nova Target. A click on 1981 shows that was the year year Sandra Day O'Connor became the first woman on the U.S. Supreme Court and U.S. hostages in Iran were freed.

"Browsing through the Lab's historical timeline will vividly reveal the immense breadth of accomplishments of this Lab and the fact that the Lab will continue to make history and make a difference," said Roger Cunning, who spearheaded the timeline. "Employees might also strengthen their sense of pride in being a part of and contributing to LLNL's world-class stature."

The Website also features links to an overview of the Lab's history, quicktime movies about the Lab, such as one on the 1950s page called "Birth of the Laboratory," and graphs for each decade showing how the Lab's employee population changed.

making history *making a* difference



send us YOUR STORY

1952 to 2002

Deadline: Feb. 15

Send your stories to Laurie Powers, L-664, powers12@llnl.gov. You may also submit stories on the Web at http://www.llnl.gov/50th_anniv/story.htm

Questions?
Call Laurie, (925) 423-9868

Do you have an interesting story about "life at the Lab?"

The 50th Anniversary Committee is gathering human-interest stories from employees, retirees and alums for *Fifty Years of Stories: Life at the Laboratory,* a publication that will celebrate the people and experiences that have shaped Lab life.

Stories will either be included in the publication or posted on the 50th Anniversary Website.

Or, if you know an employee, retiree, or former employee who has an interesting story, we'd like to hear from them, too.

When submitting your story, please include your name, job title, phone number and email address. Stories will be edited for length, grammar and punctuation, and fact-checked as necessary.

Interviewers will be available if you are unable to write your story.

See accompanying story for further information.

Wanted: your recollection of 'life at the Lab'

Duane Sewell, former deputy director, recalls climbing the tower to arm his first test shot, almost 50 years ago. It was about 2 a.m., cold and windy, and the tower swayed back and forth — much like a chandelier during an earthquake.

"I can remember being up there and thinking, as you do when you get into situations like that, 'What in the devil am I doing up here?' " Sewell recalled. "How did I get into this, with this huge nuclear bomb sitting here in front of me?"

The first experiment at the Nevada Test Site did not go as planned, as this tower shows.

Robert Becker, a Lab retiree, recalls the early infrastructure of the Lab, when office buildings were converted from old naval barracks. "My second office…was in a Navy shower room. The drain was still there and the floor slanted down, so if I wasn't careful and took my feet off the floor and put them on the desk or something, my chair would roll down into the drain."

These recollections are snippets from longer narrations that will make up "Fifty Years of Stories: Life at the Laboratory," part of a collection of publications to be released in honor of the Lab's 50th anniversary. "Fifty Years of Stories" will be a photographic essay that will feature a number of first-person accounts authored by a wide range of employees about "life at the Lab."

But to do this, we need to hear from you. Do you recall a specific program, the opening of a new building, an experiment or other event that stands out above the rest? If so, we'd like you to contribute to "Fifty Years of Stories."

"Our goal is a publication that will reflect the extraordinary character of our employees and the unique challenges they have faced defending our national security over the past 50 years," said TID editor Laurie Powers, who is spearheading the book. "Your story may be exactly what we need for an accurate and entertaining portrayal of life at the Lab."

You may write about a specific event, or you can write a short observation reflecting certain aspects of Lab life during a notable period of time. Stories can be of any length. Due to space restrictions, however, narrations might be shortened, and we may edit the story for length, grammar and content, and fact-checked as necessary. If we do edit the story, it will be returned to the author for approval before appearing in the publication.

Please submit your story to Laurie Powers, at L-664, no later than Feb. 15. Please be sure to include your name, current address and phone number, your official employee title while working at the Lab, and the department for which you worked at the time the story took place.

If you have any questions, you can call Powers at (925) 423-9868, or e-mail her at: powers12@llnl.gov. You can also e-mail your story to Powers at the above e-mail address. You may also submit stories on the Web at http://www.llnl.gov/50th_anniv/story.htm

If you are unable to write your story, we may be able to tape record it; in such an event, please call Powers to arrange for an interview.

1952 – 2002
Making History, Making a Difference

DIRECTOR

Continued from page 1

The Laboratory's 50th anniversary should be a time of remembrance, celebration, acknowledgement, and education. It is also appropriate to use the opportunity to establish a vision for our future. Publications, invited speakers, special events and strategic planning activities will provide venues for reflecting on our past and exploring implications for the future. Our goal is to broadly involve Livermore employees in 50th anniversary activities and to engage Lab retirees, our neighbors, and our sponsors and supporters.

I have asked Tom Isaacs, director of the Policy, Planning and Special Studies Office, to coordinate planning associated with the 50th anniversary. Overall, I envision the celebratory activities to consist of a variety of Laboratory-wide undertakings. Wherever practical, we should also leverage conferences and other activities being planned within Laboratory programs, using these events to reflect on our role as a national laboratory and consider our future.

We envision an exciting year made memorable by contributions from across the Laboratory. We need your ideas and help in planning and executing activities as well as information about your upcoming events that align with the 50th anniversary theme of continuing service to the nation. Please contact Tom Isaacs, 2-4608, who is coordinating activities and developing 50th anniversary institutional materials for general use.

ANNIVERSARY

Continued from page 1

as a way to recognize the people behind the programs, "people who have made and continue to make the Lab what it is today," said Isaacs.

Though many events are still in the planning stages, the Lab will host a Family Day and community open house in September. A Science Day, similar to last year's event, will be held in the spring.

Science on Saturday, the popular speaker series geared toward students, will include a 50th anniversary perspective discussion within each research lecture being presented, while Lab programs such as Affirmative Action and Diversity, LLESA and other groups will schedule special speakers and events.

Throughout the year the Lab will commemorate its 50th anniversary through a number of community events. The Lab Visitors Center will feature a number of special anniversary exhibits.

Planners are hoping to host several integral Lab partners throughout the year, including retirees, industry partners and Lab founders. A series of guest speakers will be scheduled, ranging from former Lab directors to distinguished lecturers in science and technology. In continuing to reach out to the community, Lab employees will work with area science fairs and host events like Expanding Your Horizons to encourage local youth interest in math and science.

Most Lab publications will also mark the year with special editions or highlights of Lab history. Several special editions of *Newsline* will be published, and Science and Technology Review is planning to run a highlight article in every edition. Highlights of each month's *S&TR* will be presented in *Newsline*.

There will be special brochures and posters that appear throughout the Lab.

This issue of *Newsline* kicks off a weekly series, "50 Major Accomplishments," which looks back at the crowning achievements for the Lab. This weekly feature provides a sneak peek at a bigger publication that will come out in the fall. This book will detail a major accomplishment in each year of the Lab's history, explaining its roots, importance, and how it provides a foundation for current and future work.

Also included in this issue of *Newsline* are several other publications in which employees are invited to participate. As these publications are compiled, employees will be able to view their progress on a special anniversary Website, which will be made available in the next few weeks.

All publications will be made available to Lab employees. In addition, each employee will receive a commemorative calendar and coffee mug for the 50th anniversary.

Finally, an interactive timeline, looking back at each year of the Lab's history, will be unveiled to the public today. For more on this timeline, see the story on page 11. To view the timeline, see http://www.llnl.gov/timeline.

More information on 50th anniversary events will be published in future issues of *Newsline* and *NewsOnLine*.

For information on planned events or if you have an idea you would like to submit, call Tom Isaacs at 2-4608.

50th anniversary event contacts

For information about anniversary events

Tom Isaacs	isaacs2@llnl.gov	2-4608

For information about publicizing your anniversary event

Lynda Seaver	seaver1@llnl.gov	3-3103
Newsline	newsline@llnl.gov	
NewsOnLine	newsonline@llnl.gov	

Though the Livermore Laboratory was still in its fledgling stage, national security work began right away, both in Livermore and at the Nevada Test Site (right).

Newsline

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